



Space Shuttle Program Manifest & Flight Opportunities for Small Payloads



1999 Shuttle Small Payloads Symposium
NASA/JSC
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Agenda

- **Today's manifest environment**
- **Customer and Flight Integration Office**
- **Opportunities and concepts**
 - ISS flights
 - Non-ISS flights
 - New research flights
- **Conclusion**

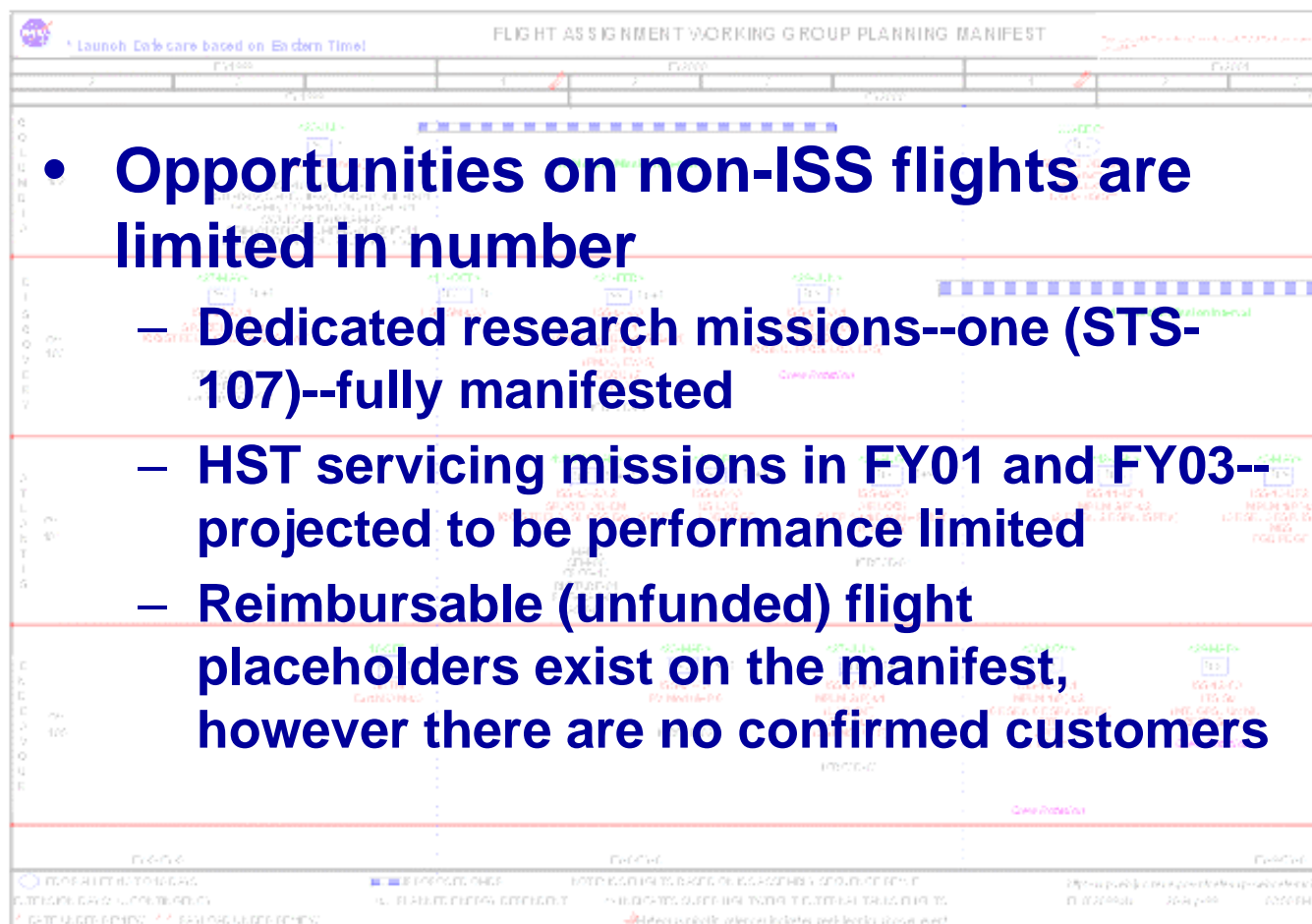


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- FLIGHT ASSIGNMENT WORKING GROUP PLANNING MANIFEST**
- Launch Data based on Eastern Time**
- For next 5 years, almost 90% of the funded flights are for ISS**
- Possible, but difficult to get small payload opportunities on ISS flights**
- Opportunities identified early are at risk of being bumped
 - Opportunities identified late would be very restrictive
 - ISS flights thru mid FY02 will have severe thermal environment



Today's Manifest Environment (Cont'd)

- Opportunities on non-ISS flights are limited in number
 - Dedicated research missions--one (STS-107)--fully manifested
 - HST servicing missions in FY01 and FY03--projected to be performance limited
 - Reimbursable (unfunded) flight placeholders exist on the manifest, however there are no confirmed customers

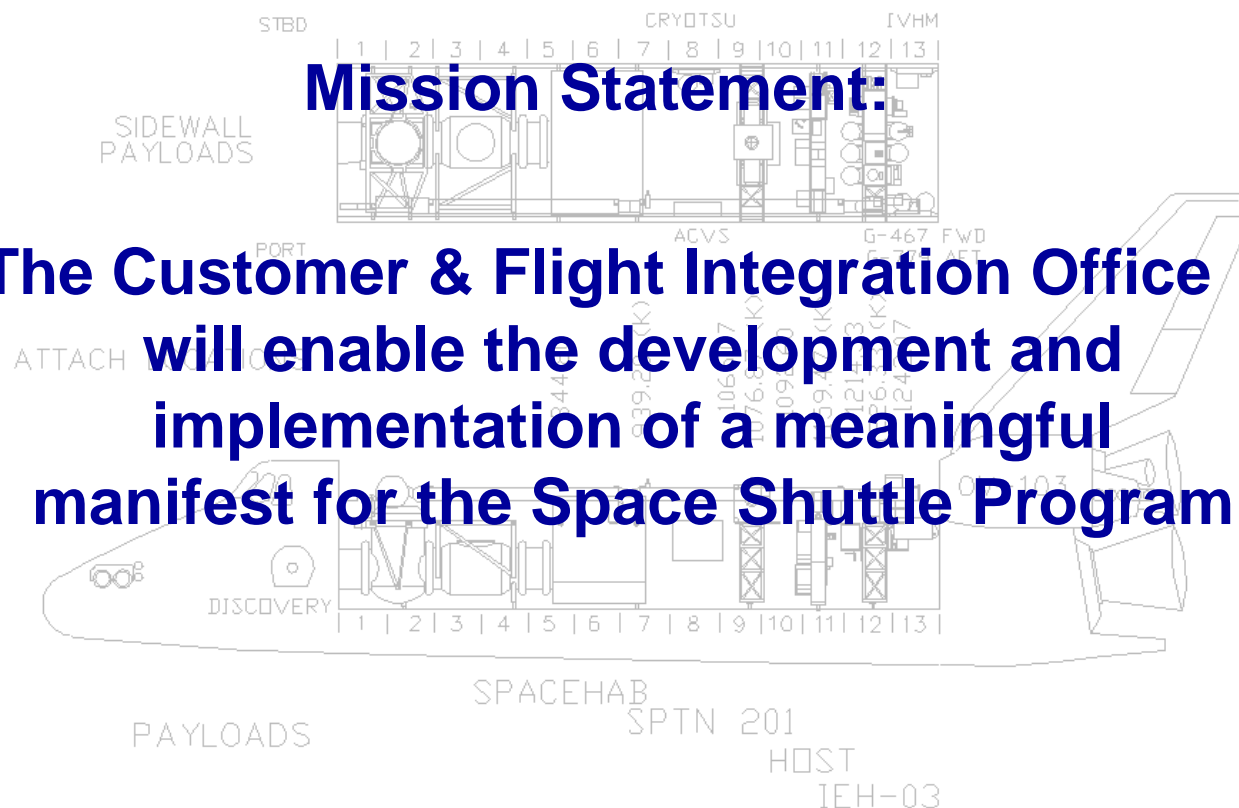




Space Shuttle Customer and Flight Integration Office

Mission Statement:

The Customer & Flight Integration Office will enable the development and implementation of a meaningful manifest for the Space Shuttle Program





Opportunities on ISS Flights

- **Process developed to allow identification of potential opportunities**
 - done with preliminary data
 - based on volume and performance margin
- **Flags the need for early evaluation of shuttle capabilities in those locations**
- **Can then decide whether any payload preparation strategies would be prudent**
- **Payloads manifested no later than L-11 months**



Opportunities on ISS Flights

(Cont'd)

- Opportunities may arise when small portions of ISS hardware get shuffled
- Preliminary proposal to provide a capability to manifest standard GAS experiments late in flow
- Manifest potentially as late as L-5 months
- This proposal still in its infancy



Opportunities on Non-ISS Flights

- **STS-107 fully manifested**
 - Attempting to accommodate as many payloads as possible
 - Extensive evaluation and analysis has been done
- **Reimbursable placeholders**
 - No confirmed customers
 - However, potential opportunities for small payloads could materialize on such flights



Additional Science & Research Missions

- **Manifest concepts have been proposed that would enable additional science and research flights**
- **“Stand-by Research” mission**
 - Designed to take advantage of any significant slips in the ISS assembly
 - Research flight developed in parallel with manifested ISS flight
 - Decision points at L-9 months and 30 days prior to orbiter vehicle reconfiguration for flight



Additional Science & Research Missions

(Cont'd)

- **Conversion of funded ISS Launch-On-Need flights to “Stand-by cargo” flights**
 - Create funded research missions on OV-102 where ISS LON flights are manifested
 - Move LON flights to the ISS orbiters (OV-103, -104, -105)
 - LON flights handled using the processes developed for the Stand-by Research concept



Conclusion

- We are the payload's advocate.
- It is part of our mission to make sure we make the most efficient use possible of the Space Shuttle's resources.
- Our office is committed to making every effort to find opportunities for short-duration science and research technology in low-Earth orbit.